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Review of the central African leaf chafer genus *Entypophana* Moser, 1913 (Coleoptera: Scarabaeidae: Melolonthinae: Schizonychini)

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Abstract

The genus *Entypophana* Moser, 1913 is revised. *Entypophana njiapanda* new species from Tanzania is described, *E. apicata* Moser, 1913 (type species, by present designation), *E. biapicata* Moser, 1913, *E. hulstaerti* Burgeon, 1946, *E. lujai* Moser, 1917 and *E. maynei* Burgeon, 1946, are redescribed and lectotypes for *E. biapicata*, *E. hulstaerti*, *E. lujai* and *E. maynei* are designated. An identification key is provided and photographs illustrate external morphology and male genitalia. A distribution map of the currently known species of *Entypophana* is provided.

Key words. New species, redescriptions, lectotypes, key to species, distribution map, Afro-tropical Region

Introduction

The fauna of the melolonthine tribe Schizonychini (= Schizonychina *sensu* Bouchard *et al.* (2011)) (Coleoptera: Scarabaeidae: Melolonthinae) is considerably diverse, containing about 550 species in 49 genera (Lacroix 2010; Lacroix & Montreuil 2012; Bezděk & Sehnal 2014; Sehnal *et al.* 2014). The majority of taxa are distributed in the Afrotropical Region.

The genus *Entypophana* Moser, 1913, differs from other schizonychine genera by having a double vertical head carina and occipital carina medially elevated into a simple or double horn or a broad, straight edge. Pronotum of both sexes is laterally thickened into conspicuous bulges (with lateral tubercle) and medially bears a shallow, apically narrowing impression (Burgeon 1946; Moser 1913; Moser 1917). The closely related genus *Entyposis* Kolbe, 1894, differs by having a low occipital carina, and pronotum of both sexes apically thickened into conspicuous bulges (with apical tubercle) and a deeper medial impression frontally extended into a weakly or strongly accentuated point (Kolbe 1894; Lacroix & Montreuil 2012).

Recently I have had the opportunity to study interesting material of Schizonychini collected during the expedition organized by Natural History Museum of London (United Kingdom) to Tanzania in 2010. Examination of this material and of type material from the Museum für Naturkunde in Berlin (Germany) and the Musée Royal d'Afrique Centrale in Tervuren (Belgium) allowed me to describe one new species and to improve our knowledge of geographic distribution of the previously known *Entypophana* species.

Material and methods

Specimens were examined with a Novex stereomicroscope; measurements were taken with an ocular grid. Length measurements are from the anterior margin of the clypeus to apices of the elytra. The habitus photographs were taken with a Canon MP-E 65mm/2.8 1–5× Macrolens on bellows attached to a Canon EOS 550D camera. Partially focused images of each specimen were stacked using the Helicon Focus 3.20.2 Pro software. The new species is provided with one red printed label: “*Entypophana njiapanda* sp. n., HOLOTYPE ♂ and PARATYPE ♀, Richard Sehnal det. 2015”. Verbatim label data are cited for the material examined. Separate labels are indicated by

a double slash “//”, lines within each label are separated by a slash “/”. My remarks and additional comments are placed in brackets.

In accordance with Recommendation 69A of International Commission on Zoological Nomenclature (1999), a type species is designated for the genus *Entypophana*. Lectotypes were designated for the following species: *E. biapicata*, *E. hulstaerti*, *E. lujai* and *E. maynei* in order to preserve the stability of nomenclature by selecting one specimen as the sole, name-bearing type of the taxon.

The following acronyms identify the collections housing the material examined (curators’ names are in parentheses):

BMNH	Natural History Museum, London, United Kingdom (Maxwell V.L. Barclay)
IRSNB	Institut royal des Sciences naturelles de Belgique (Alain Drumont)
MRAC	Musée Royal d’Afrique Centrale, Tervuren, Belgium (Marc De Meyer)
RSCV	Richard Sehnal, Velenice, Czech Republic
ZMHUB	Museum für Naturkunde, Leibniz Gemeinschaft, Berlin (Johannes Frisch)

Entypophana Moser, 1913

Entypophana Moser, 1913: 294 (description); Burgeon 1946: 262 (review); Lacroix 2010: 208 (catalogue); Lacroix & Montreuil 2012: 723.

Type species. *Entypophana apicata* Moser, 1913, by present designation.

Diagnosis. *Entypophana* differs from other schizonychine genera by combination of the following characters: Body elongate (length 14.9–20.0 mm), almost parallel-sided, weakly to moderately convex. Labrum transverse, deeply bilobed, lobes rounded. Clypeus transverse, anterior angles rounded. Frontoclypeal carina elevated, medially sinuate forward. Frontoclypeal suture straight or gently undulate. Occipital carina always present, prominent, medially elevated, laterally diminishing. Head including clypeus with species-diagnostic macrosetose punctuation. Eyes small (combined width of both eyes is less than maximum width of frons between eyes) to large (combined width of both eyes exceeds maximum width of frons between eyes). Antenna with 10 antennomeres, club with three antennomeres. Terminal maxillary palpomere elongate, club-shaped. Pronotum transverse, widest behind midlength, with anteromedial depression. Front margin straight with angles extended forward. Lateral margins crenulate and macrosetose. Base bordered, medially gently arched toward elytra, with smooth margin paralleled by a row of coarse punctures and hind angles broadly rounded. Crest delimiting anteromedial depression prominent, with top and frontal edges impunctate and remaining parts with species-diagnostic macrosetose punctuation. Elytra weakly to moderately convex, parallel-sided, rounded apically, apical angle approximately rectangular. Striae absent. Macropterous. Protibia narrow, tridentate, terminal spine inserted against medial tooth. Claws bifid, with ventrobasal teeth (e.g., Figs. 9A–F). Parameres symmetrical, narrow or curved in lateral aspect, blunt or extended apically in dorsal or lateral aspect; apex with tuft of long, yellow macrosetae (Figs. 7A–F, 8A–F).

Sexual dimorphism. Female differs from male in the following characters: body slightly broadened posteriad; antennal club straight, considerably shorter; eyes small (width of both eyes combined shorter than maximum width of frons between eyes); anteromedial depression flatter.

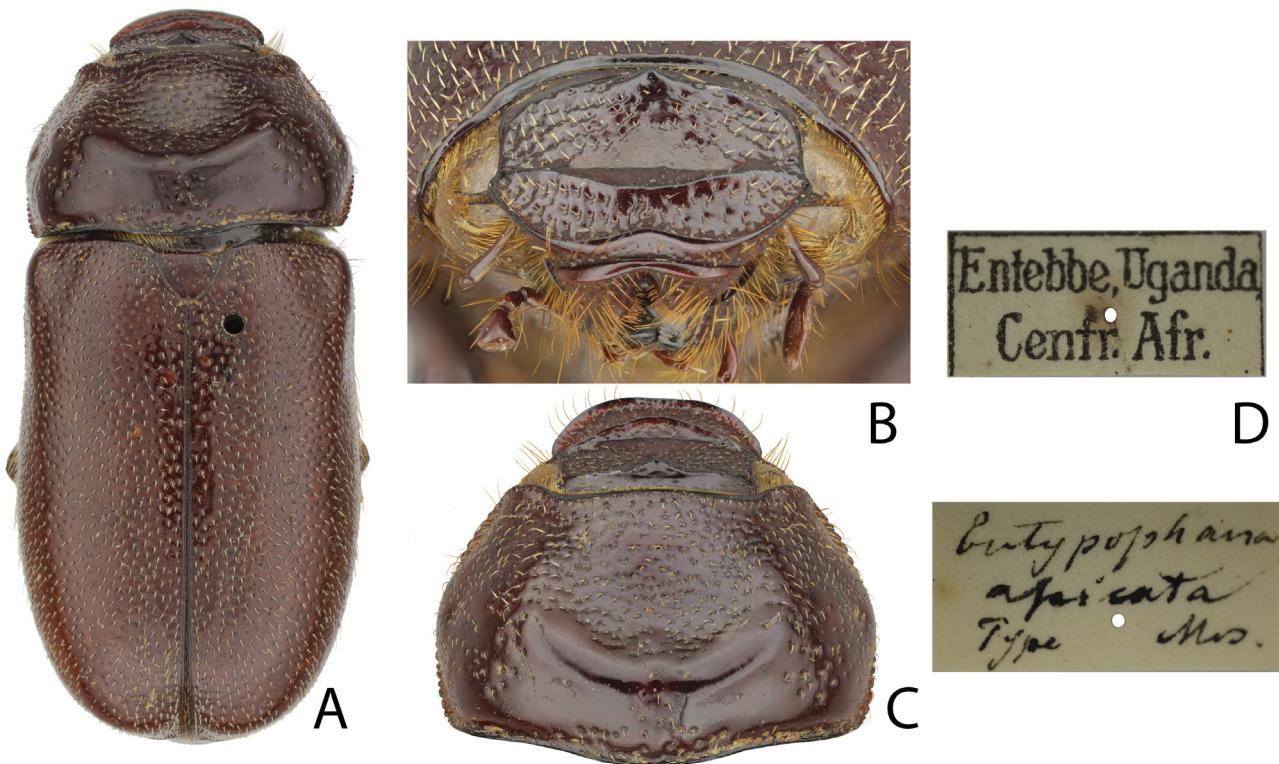
Geographic distribution. Central Africa (Democratic Republic of the Congo, Tanzania, Uganda) (Fig. 10 A–F).

Remark. Moser (1913) established his new genus *Entypophana* for two species: *E. apicata* Moser, 1913 and *E. biapicata* Moser, 1913, but neither has been designated as the type species of the genus. To remedy this, *Entypophana apicata* Moser, 1913 is here designated as the type species of *Entypophana*.

Entypophana apicata Moser, 1913

Figs 1A–D, 7A, 8A, 9A, 10A.

Entypophana apicata Moser, 1913: 296 (description); Burgeon, 1946: 264 (comparison with *E. lujai* and *E. maynei*).



FIGURES 1A–D. *Entypophana apicata* Moser, 1913 male, holotype; length 16.6 mm. A, dorsal view; B, detail of head, anterior view; C, head and pronotum, dorsal view; D, labels. Not to scale.

Type locality. “Uganda (Entebbe)”.

Type material. Holotype (designated by monotypy), ♂, labelled: “Entebbe, Uganda / Centr. Afr. [white label, printed] // *Entypophana / apicata / Type Mos.* [white label, handwritten]”.

Type depository. ZMHUB.

Additional material examined (2 specimens). **Uganda:** Uganda East, Rwenzori Mt., Nyakalengija, 1-3.i.2006, Lgt. P. Macháček, 1 ♂ in RSCV; Zobia [= about 20 km W of Entebbe], 1939, R. P. Van Woensel, 1 ♀ in IRSNB.

Redescription of holotype (♂). Body length 16.6 mm, elongate, almost parallel-sided, strongly convex. Dorsal and ventral surfaces weakly shiny, elytra reddish brown, macrosetation pale (Fig. 1A). Dorsal surface of head, pronotum, scutellum, and elytra covered with recumbent, short, white, scale-like macrosetae; ventral surface of thorax and abdomen with recumbent, long, yellow macrosetae. Head appendages and legs covered with moderately long, yellow macrosetae.

Head with labrum transverse, deeply bilobed; lobes rounded, randomly weakly punctate; lobes covered with long, erect macrosetae. Head including clypeus smooth, glossy, punctate, with setae markedly exceeding puncture diameters. Frontoclypeal carina elevated, medially sinuate forward, basal side impunctate. Frontoclypeal suture straight or gently undulate. Space between frontoclypeal carina and suture sparsely punctate. Occipital carina always present, prominent, medially elevated, with oblique summit, laterally diminishing (Fig. 1B). Space between summit and frontoclypeal suture triangular, without punctures or setae. Occiput moderately punctate. Canthus narrow, short, glabrous. Combined width of both eyes approximately equals maximum width of frons between eyes, eye distinctly extending beyond canthus. Antenna with 10 antennomeres; club with three antennomeres, almost straight, distinctly shorter than antennal shaft (antennomeres 1–7 combined). Antennomeres 1–7 with sparse, long macrosetae; club with sparse, short macrosetae. Terminal maxillary palpomere expanded apically, shorter than palpomeres 2 and 3 combined.

Pronotum transverse, widest behind midlength; with anteromedial, evenly semicircular depression. Front margin straight, with angles extended forward. Lateral margins crenulate and macrosetose. Base bordered, medially gently arched toward elytra, with smooth margin paralleled by a row of coarse punctures and hind angles

broadly rounded. Crest delimiting anteromedial depression prominent, with frontal and top edges and toward base impunctate and remaining parts with macrosetose punctuation – round punctures with yellow, scale-like, semirecumbent setae twice as long as puncture diameters (Fig. 1C).

Scutellum large, almost equilaterally triangular, sides and apex rounded; glabrous.

Elytra weakly convex, parallel-sided, rounded apically, apical angle approximately rectangular. Striae absent except weakly indicated sutural stria. Humeral umbones present, weakly swollen. Surface not microsculptured, moderately shiny; punctuation coarse, punctures almost evenly spaced, separated by twice their diameter; each puncture with somewhat recumbent, long (twice puncture diameter), narrow, yellow macroseta. Epipleuron distinct, complete, narrow, laterally glabrous. Macropterous.

Legs with femora narrow, shiny, irregularly punctate, macrosetaceous. Protibia narrow, distinctly tridentate, terminal spine inserted against medial tooth. Mesotibiae and metatibiae slightly expanded distally, with one macrosetiferous longitudinal carina. Upper terminal spine of metatibia flattened, slightly curved, acute apically; almost as long as lower, apically truncata, chisel-shaped metatibial spine. Claws bifid, with ventrobasal teeth (Fig. 9A).

Ventrum covered only by long, semierect, yellow macrosetae. Pygidium slightly transverse, convex, bordered completely, apically broadly rounded, unevenly covered by coarse umbilicate, macrosetiferous punctures.

Male genitalia (Figs. 7A, 8A). Parameres symmetrical, longer than phallobase, evenly curved and with hump apically in lateral aspect; covered by short, fine, semierect, yellow macrosetae.

Sexual dimorphism. Female differs from male in the following characters: body length 17.9 mm; metatibia more strongly expanded apically; tarsomeres of all legs shorter.

Geographic distribution. Uganda (Fig. 10A).

Entyphophana biapicata Moser, 1913

Figs 2A–D, 7B, 8B, 9B, 10B.

Entyphophana biapicata Moser, 1913: 295 (description); Moser 1917: 256 (comparison with *E. lujai*); Burgeon 1946: 262 (comparison with *E. lujai*).

Type locality. “Usambara, Neu Bethel) [= Tanzania, Tanga region, Usambara Mountains, near Gonya]”.

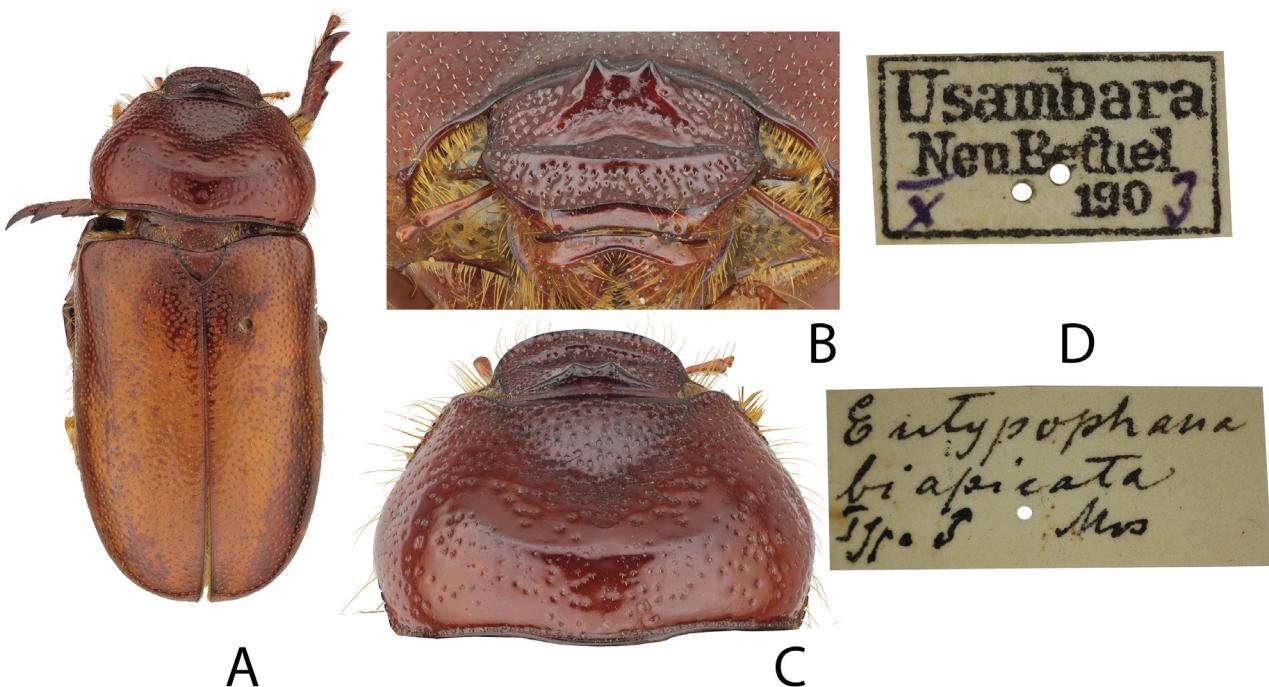
Type material. Lectotype (by present designation), ♂, labelled: “Usambara / Neu Bethel [printed] / X [handwritten] 190 [p] 3 [handwritten, white label] // Entyphophana / biapicata / Type ♂ Mos [printed, white label]”.

Type depository. ZMHUB.

Addition material examined (6 specimens). **Tanzania:** Amani, 25.-30.12.06, Vosseler G, 2 ♂ in ZMHUB; Amani, 19.-22.11.06, Vosseler G, 1 ♀ in ZMHUB; Usambara, Kwai, P. Weise S, 2 ♀ in ZMHUB; Bumbuli, 22. XII. 02, Meinkop, 1 ♀ in ZMHUB.

Redescription of lectotype (♂). Body length 17.2 mm, elongate, almost parallel-sided, strongly convex. Dorsal and ventral surfaces weakly shiny, elytra reddish brown, macrosetation pale (Fig. 2A). Dorsal surface of head, pronotum, scutellum, and elytra covered with short, recumbent, scale-like, white macrosetae; ventral surface of thorax and abdomen with recumbent, long, yellow macrosetae. Head appendages and legs covered with moderately long, yellow macrosetae.

Head with labrum transverse, deeply bilobed; lobes rounded, unevenly weakly punctate; lobes covered with long, erect macrosetae. Head including clypeus smooth, glossy, densely coarsely punctate, with each puncture bearing an erect macroseta shorter than puncture diameter. Frontoclypeal carina elevated, medially sinuate forward; base as punctate as clypeus. Frontoclypeal suture undulate, medially arched toward occipital carina. Occipital carina always present, prominent, medially with two rounded summits, laterally diminishing (Fig. 2B). Space between summits and frontoclypeal suture triangular, without punctures or setae. Occiput evenly, moderately punctate. Canthus narrow, short, glabrous. Combined width of both eyes approximately equals maximum width of frons between eyes, eye distinctly extending beyond canthus. Antenna with 10 antennomeres; club with three antennomeres, almost straight, distinctly shorter than antennal shaft (antennomeres 1–7 combined). Antennomeres 1–7 with sparse, long macrosetae; club with sparse, short macrosetae. Terminal maxillary palpomere expanded apically, shorter than palpomeres 2 and 3 combined.



FIGURES 2A–D. *Entyopophana biapicata* Moser, 1913 male, lectotype; length 17.2 mm. A, dorsal view; B, detail of head, anterior view; C, head and pronotum, dorsal view; D, labels. Not to scale.

Pronotum transverse, widest behind midlength, with anteromedial semioval depression widest and flat in anterior third and then gradually reclined toward crest. Front margin straight with angles extended forward. Lateral margins crenulate and macrosetose. Base bordered, medially gently arched toward elytra, with smooth margin paralleled by a row of coarse punctures and hind angles broadly rounded. Crest delimiting anteromedial depression prominent, with frontal and top edges impunctate. Anterior part of pronotum deeply punctate, punctures separate, setae no longer than puncture diameters. Remaining parts similarly punctate but punctures shallow; setae yellow, scale-like, semirecumbent, no longer than puncture diameters. Scutellum large, almost equilaterally triangular; sides and apex rounded; sides punctate; each puncture bearing short, narrow, scale-like, semirecumbent, white macroseta (Fig. 2C).

Elytra weakly convex, parallel-sided, rounded apically; apical angle approximately rectangular. Striae absent except weakly indicated sutural stria. Humeral umbones present, weakly swollen. Surface not microsculptured, moderately shiny; punctuation coarse, almost evenly spaced; punctures separated by twice their diameter. Each puncture bearing narrow, scale-like, semirecumbent, yellow macroseta as long as puncture diameter. Epipleuron distinct, complete, narrow, glabrous laterally. Macropterous.

Legs with femora narrow, shiny, unevenly punctate, macrosetaceous. Protibia narrow, distinctly tridentate; terminal spine inserted against medial tooth. Mesotibiae and metatibiae slightly expanded distally, each with one macrosetiferous, longitudinal carina. Upper terminal spine of metatibia flattened, slightly curved, acute apically; 1/3 longer than lower, apically truncata, chisel-shaped spine. Claws bifid, with ventrobasal teeth (Fig. 9B).

Ventral surface covered only by long, semierect, yellow macrosetae. Pygidium slightly transverse, convex, bordered completely, apically broadly rounded, unevenly covered by coarse umbilicate, macrosetiferous punctures.

Male genitalia (Figs. 7B, 8B). Parameres symmetrical, longer than phallobase, evenly curved and apically rounded with double hump in lateral aspect, with single apex in dorsal aspect; covered by short, fine, semierect, yellow macrosetae.

Sexual dimorphism. Female differs from male in the following characters: body length 15.6–18.4 mm.

Geographic distribution. Tanzania, Tanga Region (Fig. 10B).

Remark. This species was described based on an unstated number of specimens of both sexes. A lectotype is designated here to enhance stability of nomenclature (International Commission on Zoological Nomenclature 1999, Article 74). The location of the paralectotypes is unknown.

Entyphophana hulstaerti Burgeon, 1946

Figs 3A–D, 7C, 8C, 9C, 10C.

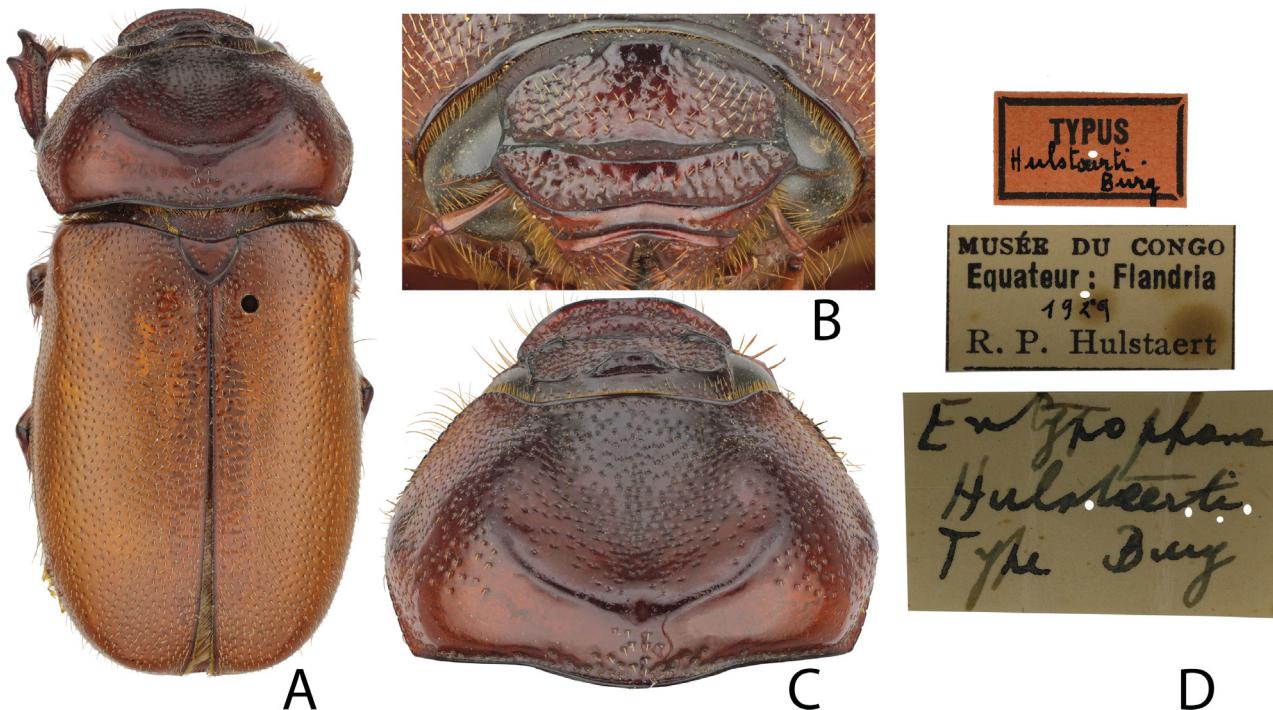
Entyphophana hulstaerti Burgeon, 1946: 263 (description and comparison with *E. lujai*).

Type locality. “Flandria [= Democratic Republic of the Congo, Equator Region, Flandria, near Ingende village, between confluence of Busira and Momboyo rivers]”.

Type material. Lectotype (by present designation), ♂, labelled: “TYPUS [printed] / Hulstaerti / Burg [red, handwritten] // MUSÉE DU CONGO / Equateur: Flandria [printed] / 1929 [handwritten] / R. P. Hulstaert [white, printed] // Entyphophana / Hulstaerti / Type / Burg [white, handwritten]”.

Type depository. MRAC.

Redescription of lectotype (♂). Body length 18.4 mm, elongate, almost parallel-sided, strongly convex. Dorsal and ventral surfaces weakly shiny, elytra reddish brown, macrosetation pale (Fig. 3A). Dorsal surface of head, pronotum, scutellum, and elytra covered with short, recumbent, scale-like, white macrosetae; ventral surface of thorax and abdomen with long, recumbent, yellow macrosetae. Head appendages and legs covered with moderately long, reddish-yellow macrosetae.



FIGURES 3A–D. *Entyphophana hulstaerti* Burgeon, 1946 male, lectotype; length 18.4 mm. A, dorsal view; B, detail of head, anterior view; C, head and pronotum, dorsal view; D, labels. Not to scale.

Head with labrum transverse, deeply bilobed; lobes rounded, unevenly, weakly punctate; lobes covered with long, erect macrosetae. Clypeus transverse, anterior margin weakly upturned and shallowly sinuate, anterior angles rounded. Head including clypeus smooth, matte, densely coarsely punctate; each puncture with an erect macroseta one-half longer than puncture diameter. Frontoclypeal carina elevated, medially sinuate forward; base as punctate as clypeus. Frontoclypeal suture straight. Occipital carina always present, prominent; medially with a flat, broad, glossy, impunctate summit, laterally diminishing (Fig. 3B). Space posterior of frontoclypeal suture with a small, triangular facet devoid of punctures and setae. Occiput evenly, moderately punctate. Canthus narrow, short, glabrous. Combined width of both eyes approximately equals width of frons between eyes, eye distinctly extending beyond canthus. Antenna with 10 antennomeres; club with three antennomeres, almost straight, distinctly shorter than antennal shaft (antennomeres 1–7 combined). Antennomeres 1–7 with sparse, long macrosetae; club with sparse, short macrosetae. Terminal maxillary palpomere expanded apically, shorter than palpomeres 2 and 3 combined.

Pronotum transverse, widest behind midlength; with anteromedial, oval depression narrower and flat in anterior third, then gradually widening and reclining toward crest. Front margin straight with angles extended forward. Lateral margins crenulate and macrosetose. Base bordered, medially gently arched toward elytra, with smooth margin paralleled by a row of coarse punctures and hind angles broadly rounded. Crest delimiting anteromedial depression prominent, with frontal and top edges toward base impunctate except a narrow medial strip at base with punctures as those present laterally. Anterior part of pronotum distinctly punctate, setae from within punctures one-half longer than puncture diameters. Remaining parts similarly punctate but punctures shallow, setae yellow, scale-like, semirecumbent, no longer than puncture diameters (Fig. 3C).

Scutellum large, almost equilaterally triangular, sides and apex rounded; sides punctate, each with four large punctures bearing short, narrow, scale-like, semirecumbent, white macroseta.

Elytra weakly convex, parallel-sided, rounded apically; apical angle approximately rectangular. Striae absent except for weakly indicated sutural stria. Humeral umbones present, weakly swollen. Surface not microsculptured, moderately shiny; punctuation coarse, almost evenly spaced; punctures separated by 1x their diameter. Each puncture bearing narrow, scale-like, semirecumbent macroseta as long or slightly longer than puncture diameter. Epipleuron distinct, complete, narrow, laterally glabrous. Macropterous.

Legs with femora narrow, shiny, unevenly punctate; macrosetaceous. Protibia narrow, distinctly tridentate; terminal spine inserted over medial tooth. Mesotibiae and metatibiae slightly expanded distally, each with one macrosetiferous, longitudinal carina. Upper terminal spine of metatibia flattened, slightly curved, acute apically; 1/3 longer than lower, apically truncata, chisel-shaped metatibial spine. Claws bifid, with ventrobasal teeth (Fig. 9C).

Ventral surface covered only by long, semierect, yellow macrosetae. Pygidium slightly transverse, convex, bordered completely; apically broadly rounded; unevenly covered by coarse, umbilicate, macrosetiferous punctures.

Male genitalia (Figs. 7C, 8C). Parameres symmetrical, longer than phallobase, evenly curved and rounded with hump and deflection apically in lateral aspect; covered by short, fine, semierect yellow macrosetae.

Sexual dimorphism. Female differs from male in the following characters: vertex of head with small swelling, pronotum narrower with weak anteromedial depression (Burgeon 1946).

Geographic distribution. Democratic Republic of the Congo, Equator region (Fig. 10C).

Remark. This species was described based on two males. A lectotype is designated here to enhance stability of nomenclature (International Commission on Zoological Nomenclature, Article 74). The location of the paralectotypes is unknown.

Entypophana lujai Moser, 1917

Figs 4A–D, 7D, 8D, 9D, 10D.

Entypopana Lujai Moser, 1917: 255 (description); Burgeon 1946: 263 (comparison of *E. hulstaerti* and *E. maynei*)

Type locality. “Congo belge (Kondué) [= Democratic Republic of Congo, Kasai Oriental Region, near Lusambo]”.

Type material. Lectotype (by present designation), ♂, labelled: “Ed. LUJA / KONDUÉ / CONGO - BELGE [white, printed] // Entypopana / Lujai Mos. / Type ♂ [white, handwritten]”.

Type depository. ZMHUB.

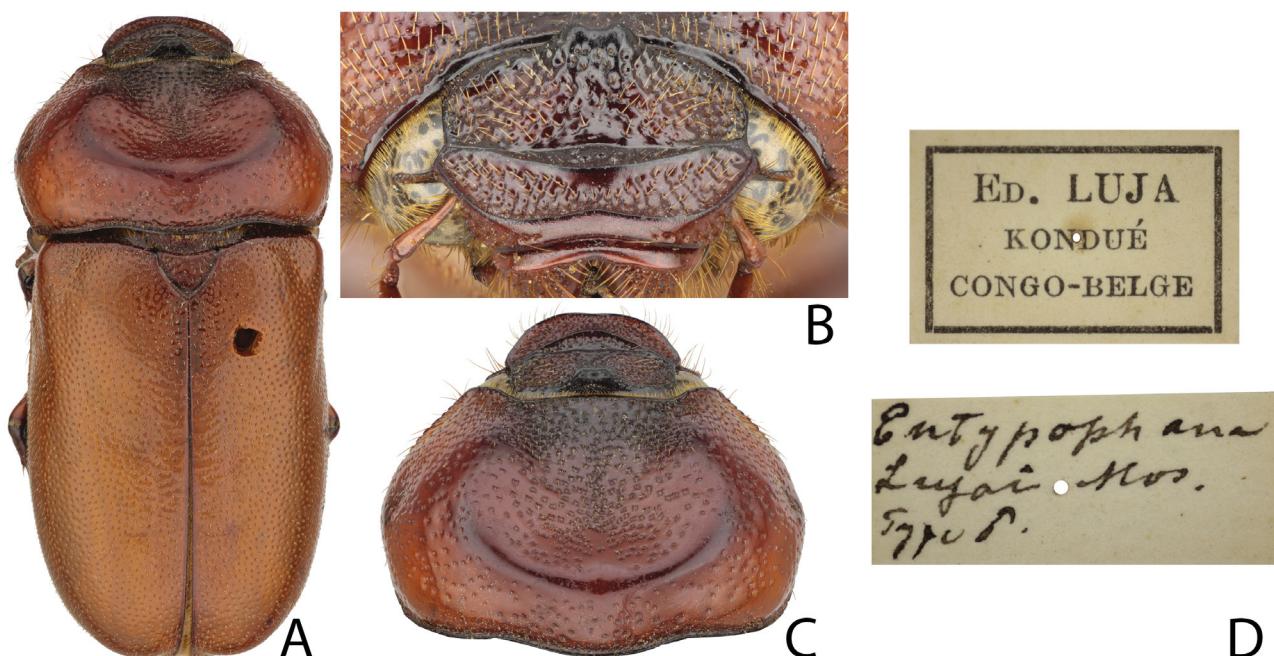
Additional material examined (1 specimen). **DEMOCRATIC REPUBLIC OF THE CONGO:** Stanleyville [= Kisangani], Congo, 1 ♀ in IRSNB.

Redescription of lectotype (♂). Body length 19.3 mm, elongate, almost parallel-sided, strongly convex. Dorsal and ventral surfaces weakly shiny, elytra reddish brown, macrosetation pale (Fig. 4A). Dorsal surface of head, pronotum, scutellum, and elytra covered with short, recumbent, scale-like, white macrosetae; ventral surface of thorax and abdomen with long, recumbent, yellow macrosetae. Head appendages and legs covered with moderately long, reddish-yellow macrosetae.

Head with labrum transverse, deeply bilobed; lobes rounded, unevenly weakly punctate; lobes covered with long, erect macrosetae. Head including clypeus smooth, glossy, fissured, densely coarsely punctate; each puncture with an erect macroseta as long as puncture diameter. Frontoclypeal carina elevated, medially sinuate forward, base

as punctate as clypeus; setae semierect at varied angles, at least twice as long as puncture diameters. Frontoclypeal suture slightly undulate, medially arched toward occipital carina. Occipital carina always present, prominent, elevated; medially with a flat, broad, glossy, impunctate double summit, laterally diminishing (Fig. 4B). Space posterior of frontoclypeal suture with a small, triangular facet devoid of punctures and setae. Occiput sparsely regularly, moderately punctate. Canthus narrow, short, bare. Width of both eyes combined approximately equal to maximum width of frons between eyes, eye distinctly extending beyond canthus. Antenna with 10 antennomeres; club with three antennomeres, almost straight, as long as antennal shaft (antennomeres 2–7 combined). Antennomeres 1–7 with sparse, long macrosetae; club sparsely, shortly macrosetaceous. Terminal maxillary broken.

Pronotum transverse, widest behind midlength; with anteromedial, semioval depression narrower and flat in anterior third, then gradually widening and reclining toward crest. Front margin straight with angles extended forward. Lateral margins crenulate and macrosetose. Base bordered, medially gently arched toward elytra, with smooth margin paralleled by a row of coarse punctures and hind angles broadly rounded. Crest delimiting anteromedial depression prominent, with frontal and top edges impunctate, between edge of crest and base punctate as sparsely as in anterior part of pronotum. Flat part of depression densely punctate, punctures spherical, setae twice as long as puncture diameters. Remaining parts with macrosetose punctuation; setae yellow, scale-like, semierect (Fig. 4C).



FIGURES 4A–D. *Entypophana lujai* Moser, 1917 male, lectotype; length 19.3 mm. A, dorsal view; B, detail of head, anterior view; C, head and pronotum, dorsal view; D, labels. Not to scale.

Scutellum large, almost equilaterally triangular, sides and apex rounded; disc punctate as elytra.

Elytra weakly convex, parallel-sided, rounded apically; apical angle approximately rectangular. Striae absent, excepting feebly visible sutural stria. Humeral umbones present, weakly swollen. Surface not microsculptured, moderately shiny; punctation coarse, almost regularly spaced; punctures separated by their diameter. Each puncture bearing a seta as long as or slightly longer than the puncture diameter. Epipleuron distinct, complete, narrow, glabrous laterally. Macropterous.

Legs with femora narrow, shiny, irregularly punctate; macrosetaceous. Protibia narrow, distinctly tridentate; terminal spine inserted against medial dent. Mesotibia and metatibia slightly expanded apicad; with one macrosetiferous, longitudinal carinae. Upper terminal spine of metatibia flattened, slightly curved, acute apically; 1/3 longer than lower, apically truncata, chisel-shaped metatibial spine. Claws bifid, with ventrobasal teeth (Fig. 9D).

Ventral surface covered only by long, semierect, yellow macrosetae. Pygidium slightly transverse, convex,

completely bordered; apically broadly rounded; irregularly covered by coarse, umbilicate, macrosetiferous punctures.

Male genitalia (Figs. 7D, 8D). Parameres symmetrical, longer than phallobasis, regularly curved in lateral aspect, rounded apically in lateral aspect; covered by short, fine, semierect, yellow macrosetae.

Sexual dimorphism. Female differs from male in the following characters: body shorter (16.0 mm), considerably shorter; anteromedial depression weak.

Geographic distribution. Democratic Republic of Congo, Kasai Oriental Region (Fig. 10D).

Remark. This species was described based on an unstated number of specimens of both sexes. A lectotype is designated here to enhance stability of nomenclature (International Commission on Zoological Nomenclature 1999, Article 74).

Entypophana maynei Burgeon, 1946

Figs 5A–D, 7E, 8E, 9E, 10E.

Entypophana Maynéi Burgeon, 1946: 263 (description).

Type locality. “Mayumbe: Makaia N’tete [= Democratic Republic of the Congo, Bas-Fleuve Region, Mayumbe]”.

Type material. Lectotype (by present designation), ♂, labelled: “*Entypophana / Maynéi / Type Burg* [white, handwritten] // MUSÉE DU CONGO / Mayumbe 24-XI-15/ Makaiä N'Tete / R. Mayné [white, printed] // TYPUS [printed] / Maynei. Burg. [red label, handwritten]”.

Type depository. MRAC.

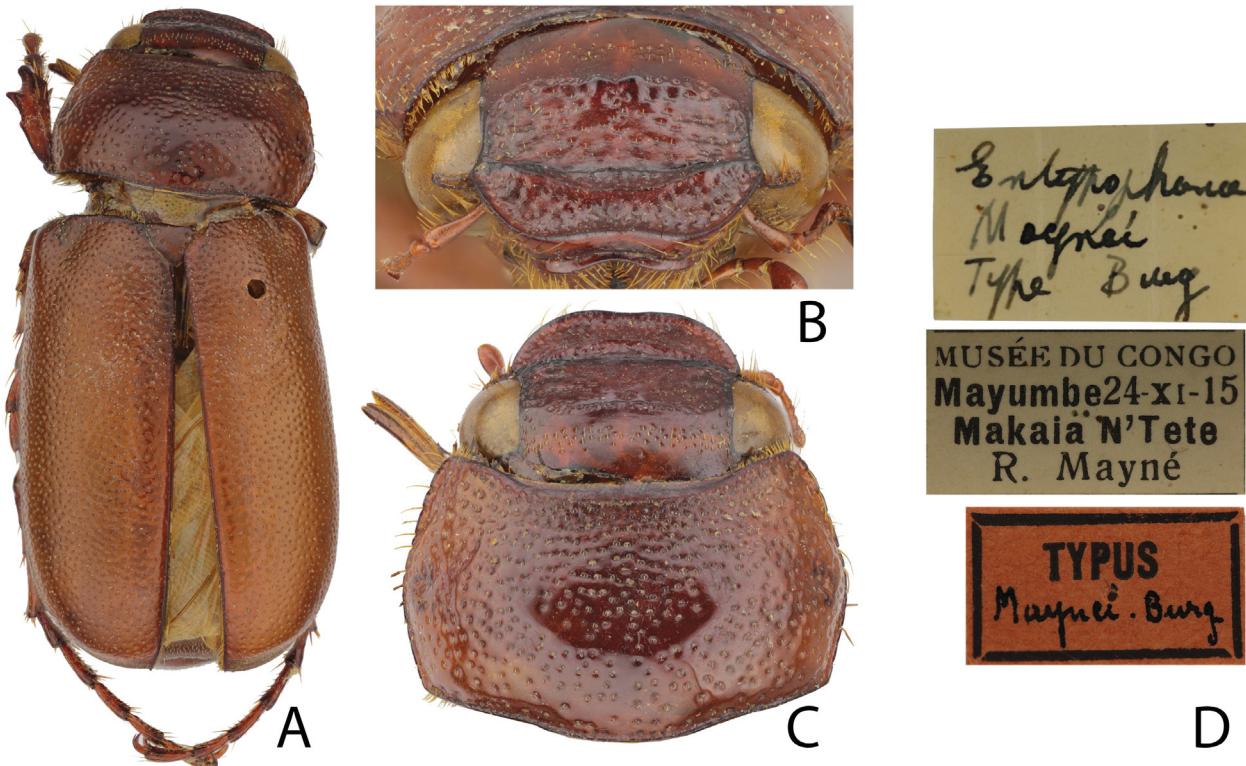
Redescription of the lectotype (♂). Body length 14.9 mm, elongate, almost parallel, strongly convex. Dorsal and ventral surface weakly shiny, head and pronotum dark brown, elytra reddish-brown, macrosetation pale (Fig. 5A). Dorsal surface of head, pronotum, scutellum, and elytra covered with white, short, recumbent, scale-like macrosetae; ventral surface of thorax and abdomen with yellow, recumbent, long macrosetae. Head, appendages, and legs covered with reddish-yellow, moderately long macrosetae.

Head with labrum transverse, deeply bilobed; lobes rounded, irregularly and weakly punctate; lobes covered with long, erect macrosetae. Head including clypeus smooth, matte, densely coarsely punctate; each puncture with a macroseta shorter than puncture diameter. Frontoclypeal carina sinuate in the forward direction but medially straight, frons behind the carina randomly punctate, punctures as on clypeus. Frontoclypeal suture undulate, at middle doubly arched toward occipital carina. Occipital carina always present, prominent, elevated; medially extended into a thin (in dorsal view razor-sharp), broad, impunctate double summit, laterally diminishing (Fig. 5B). Surface behind frontoclypeal suture impunctate. Occiput with a mix of sparse and moderate punctate. Canthus narrow, short, glabrous. Width of both eyes combined approximately equal to maximum width of frons between eyes, eye distinctly extending beyond canthus. Antenna with 10 antennomeres; club with three antennomeres, almost straight, as long as antennal shaft (antennomeres 1–7 combined). Antennomeres 1–7 with sparse, long macrosetae; club sparsely, shortly macrosetaceous. Terminal maxillary palpomere expanded apically, approximately shorter as palpomeres 2 and 3 combined.

Pronotum transverse, widest behind midlength; with a round, anteromedial shallow depression gradually rising toward edge of crest. Front margin straight, with angles extended forward. Lateral margins crenulate and macrosetose. Base bordered, medially gently arched toward elytra, with smooth margin paralleled by a row of coarse punctures and hind angles broadly rounded. Crest delimiting anteromedial depression prominent, with edge impunctate. Pronotal punctuation asperate and macrosetose, anteriorly denser than toward base; setae no longer than half of puncture diameters, yellow, scale-like, semirecumbent (Fig. 5C).

Scutellum large, almost equilaterally triangular; sides and apex rounded; sides punctate, each bearing short narrow, white, scale-like, almost recumbent macroseta.

Elytra weakly convex, parallel-sided, rounded apically; apical angle approximately rectangular. Striae absent, excepting feebly visible sutural stria. Humeral umbones present, weakly swollen. Surface not microsculptured, moderately shiny, with shallow and regularly spaced punctures separated by their diameter. Each puncture bearing narrow, yellow, scale-like, almost recumbent macroseta; setae as long as or slightly shorter than the puncture diameter. Epipleuron distinct, complete, narrow, glabrous laterally. Macropterous.



FIGURES 5A–D. *Entyphophana maynei* Burgeon, 1946 male, lectotype; length 14.9 mm. A, dorsal view; B, detail of head, anterior view; C, head and pronotum, dorsal view; D, labels. Not to scale.

Legs with femora narrow, shiny, irregularly punctate; macrosetaceous. Protibia narrow, distinctly tridentate; terminal spine inserted against medial dent. Mesotibia and metatibia slightly expanded apicad, with one macrosetiferous longitudinal carinae. Upper terminal spine of metatibia flattened, slightly curved, acute apically; 1/3 longer than lower, apically truncatae, chisel-shaped metatibial spine. Claws bifid, with ventrobasal teeth (Fig. 9E).

Ventral surface covered only by long, semierect, yellow macrosetae. Pygidium slightly transverse, convex, completely bordered; apically broadly rounded; irregularly covered by coarse umbilicate, macrosetiferous punctures.

Male genitalia (Figs. 7E, 8E). Parameres symmetrical, longer than phallobasis, regularly curved in lateral aspect, rounded apically in lateral aspect, with somewhat pincers-like apex; covered by short, fine, semierect, yellow macrosetae.

Sexual dimorphism. Female unknown.

Geographic distribution. Democratic Republic of the Congo, Bas-Fleuve Region (Fig. 10E).

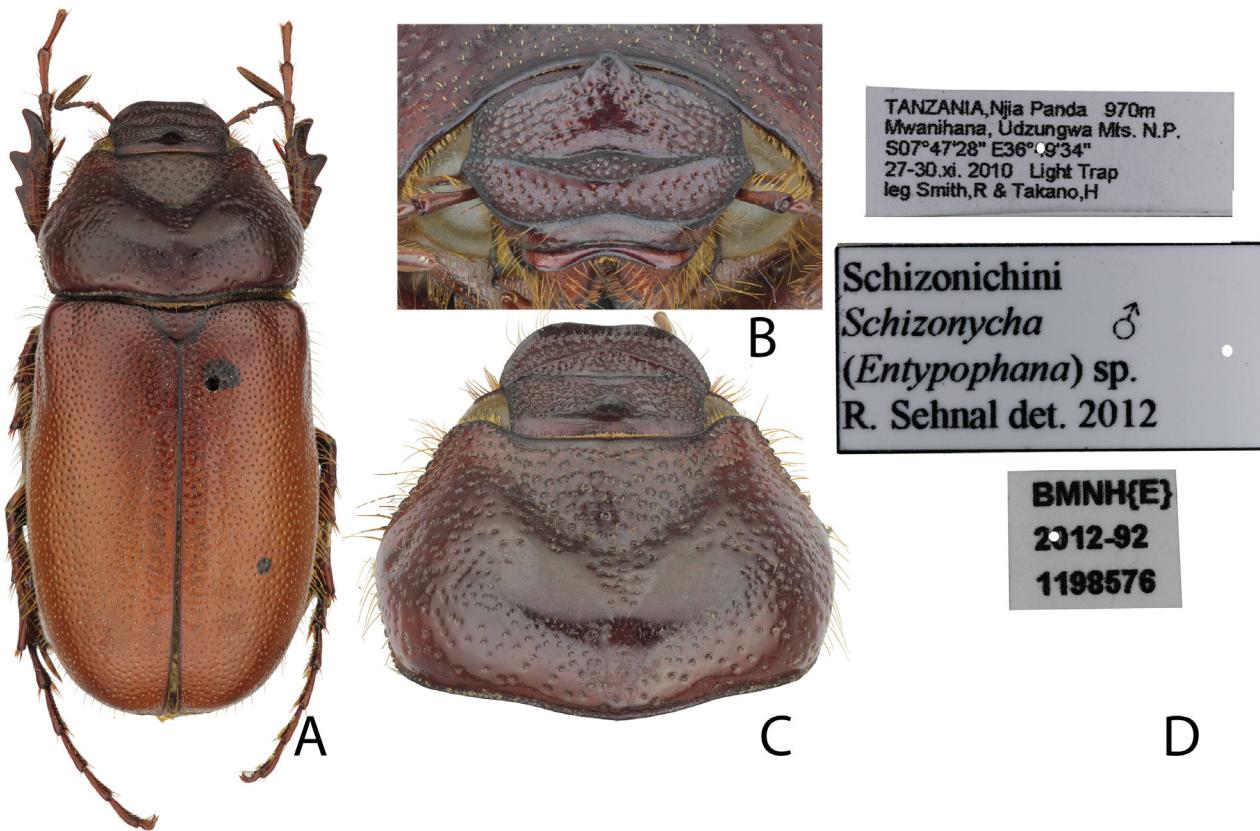
Remark. This species was described based on two males. A lectotype is designated here to enhance stability of nomenclature (International Commission on Zoological Nomenclature 1999, Article 74). The location of the paralectotypes is unknown.

Entyphophana njiapanda Sehnal, new species

Figs 6A–D, 7F, 8F, 9F, 10F.

Type locality. Tanzania, Kilombero District, Mwanihana.

Type material (2 specimens). Holotype, ♂, labelled: “TANZANIA, Njia Panda 970m / Mwanihana, Udzungwa Mts. N.P. / S07°47'28" E36°49'34" / 27-30.xi.2010 Light Trap / leg. Smith, R & Takano, H [white, printed] // Schizonychini / *Schizonycha* ♂ / (*Entyphophana*) sp. / R. Sehnal det. 2012 [white, printed] // BMNH{E} / 2012-92 / 1198576 [white, printed]”. PARATYPE, ♀: same data as holotype.



FIGURES 6A–D. *Entyphophana njiapanda* new species male, holotype; length 17.9 mm. A, dorsal view; B, detail of head, anterior view; C, head and pronotum, dorsal view; D, labels. Not to scale.

Type depository. BMNH.

Description of the holotype (♂). Body length 17.9 mm, elongate, almost parallel, strongly convex. Dorsal and ventral surface weakly shiny, head and pronotum dark brown, elytra brown, macrosetation pale (Fig. 6A). Dorsal surface of head, pronotum, scutellum, and elytra covered with white, short, recumbent, scale-like macrosetae; ventral surface of thorax and abdomen with yellow, recumbent, long macrosetae. Head appendages and legs covered with reddish-yellow, moderately long macrosetae.

Head with labrum transverse, deeply bilobed; lobes rounded, irregularly and weakly punctate; lobes covered with long, erect macrosetae. Head including clypeus smooth, glossy, fissured, densely coarsely punctate; each puncture with an erect macroseta shorter than puncture diameter. Frontoclypeal carina sinuate in the forward direction; surface behind carina densely but unevenly punctate except a narrow impunctate strip adjacent to frontoclypeal suture. Frontoclypeal suture undulate, medially arched toward occipital carina. Occipital carina always present, prominent, elevated, medially extended into a columnal impunctate summit, laterally diminishing (Fig. 6B). Space posterior of frontoclypeal suture with a large, triangular impunctate area. Occiput sparsely, evenly, moderately punctate. Canthus narrow, short, glabrous. Width of both eyes combined approximately equal to maximum width of frons between eyes, eye distinctly extending beyond canthus. Antenna with 10 antennomeres; club with three antennomeres, almost straight, short than antennal shaft (antennomeres 1–7 combined). Antennomeres 1–7 with sparse, long macrosetae; club sparsely, shortly macrosetaceous. Terminal maxillary palpomere expanded apically, slightly shorter than palpomeres 2 and 3 combined.

Pronotum transverse, widest behind midlength; with a large but shallow triangular, anteromedial depression as wide as head, which abruptly rises toward edge of crest. Front margin straight, with angles extended forward. Lateral margins crenulate and macrosetose. Base bordered, medially gently arched toward elytra, with smooth margin paralleled by a row of coarse punctures and hind angles broadly rounded. Crest delimiting anteromedial depression prominent, with a wide strip at edge and summit of crest impunctate. Depression densely covered by deep, asperate punctures with setae no longer than puncture diameters. Punctuation of remaining surface also asperate, but sparser and punctures set in rows; setae yellow, scale-like, semirecumbent (Fig. 6C).

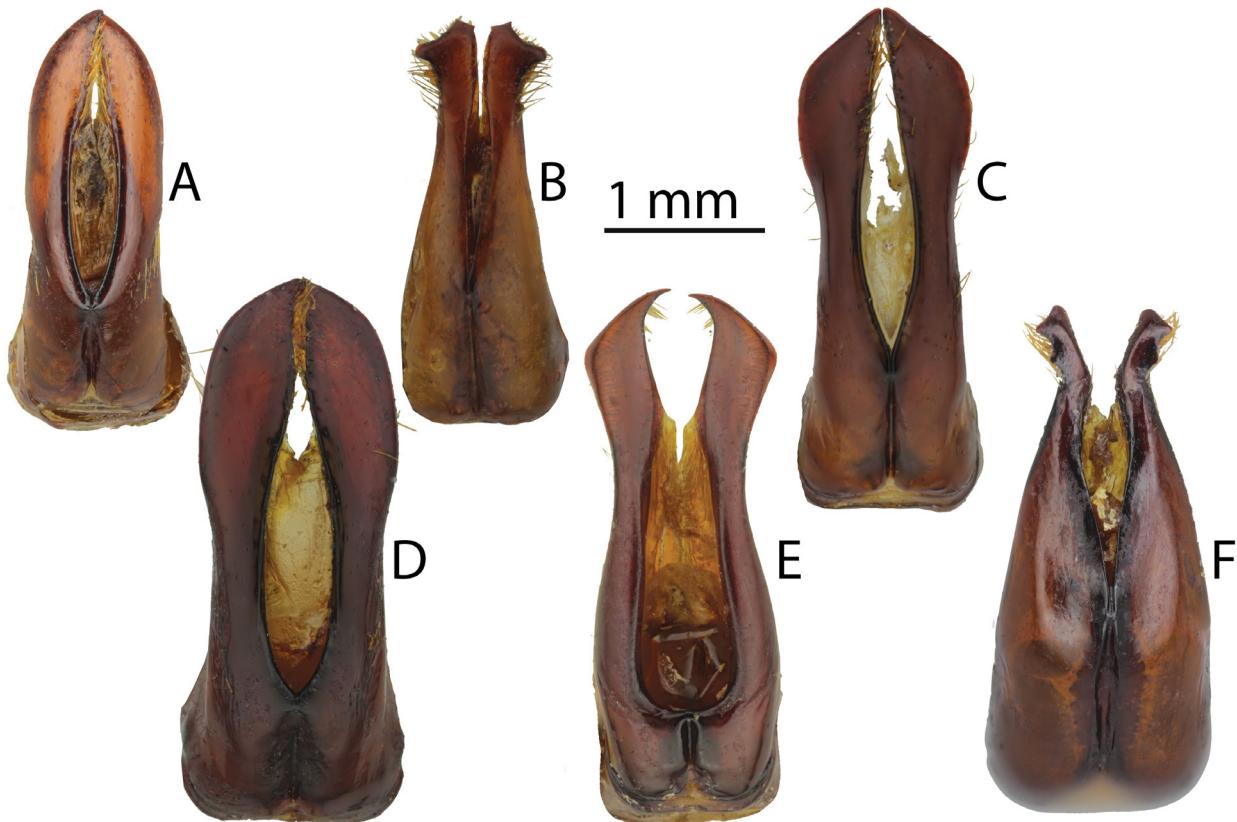
Scutellum large, almost equilaterally triangular, sides and apex rounded; sides with horseshoe-shaped punctures; each puncture bearing short, narrow, white, scale-like, almost recumbent macroseta.

Elytra weakly convex, parallel-sided, rounded apically; apical angle approximately rectangular. Striae absent, except for feebly visible sutural stria. Humeral umbones present, weakly swollen. Surface not microsculptured, moderately shiny; punctures shallow, regularly spaced, separated by 2–3 diameters. Each puncture bearing shorter than their diameter, narrow, yellow scale-like, almost recumbent macroseta. Epipleuron distinct, complete, narrow, glabrous laterally. Macropterous.

Legs with femora narrow, shiny, irregularly punctate, macrosetaceous. Protibia narrow, distinctly tridentate; terminal spine inserted above medial dent. Protarsomeres 4–5 missing from both legs. Mesotibia and metatibia slightly expanded apicad, with one macrosetiferous, longitudinal carinae. Upper terminal spine of metatibia flattened, slightly curved, acute apically; 1/3 longer than lower, apically truncata, chisel-shaped metatibial spine. Claws bifid, with ventrobasal teeth (Figs. 9F).

Ventral surface covered only by long, semierect, yellow macrosetae. Pygidium slightly transverse, convex, completely bordered; apically broadly rounded; irregularly covered by coarse, umbilicate, macrosetiferous punctures.

Male genitalia (Figs. 7F, 8F). Parameres symmetrical, longer than phallobasis, regularly curved in lateral aspect, rounded with double hump apically in lateral aspect, on apex with double apex in dorsal aspect; covered by short, fine, semierect, yellow macrosetae.



FIGURES 7A–F. Aedeagus in dorsal view. A, *Entyphophana apicata* Moser, 1913, holotype; B, *Entyphophana biapicata* Moser, 1913, lectotype; C, *Entyphophana hulstaerti* Burgeon, 1946, lectotype; D, *Entyphophana luijai* Moser, 1917, lectotype; E, *Entyphophana maynei* Burgeon, 1946, lectotype; F, *Entyphophana njiapanda* new species, holotype. Scale bar: 1.0 mm.

Sexual dimorphism. Female differs from male in the following characters: body length 20.0 mm, metatibia more strongly expanded apically; tarsomeres of all legs shorter.

Geographic distribution. Tanzania, Kilombero District (Fig. 10F)

Differential diagnosis. *Entyphophana njiapanda* can be differentiated from all species of the genus *Entyphophana* using the following diagnostic characters in males: frontoclypeal carina low, sinuate in the forward direction; surface behind frontoclypeal carina densely but unevenly punctate except for a narrow, impunctate strip

adjacent to frontoclypeal suture (Fig. 6B); head including clypeus smooth, glossy, fissured, densely coarsely punctate; each head puncture with an erect macroseta shorter than puncture diameter (Fig. 6B); shape of aedeagus (Figs. 7F, 8F);

Etymology. Derived from name of type locality Njia Panda (Tanzania); noun in apposition.

Collecting circumstances. Both type specimens were attracted to light (H. Takano, personal communication 2013).



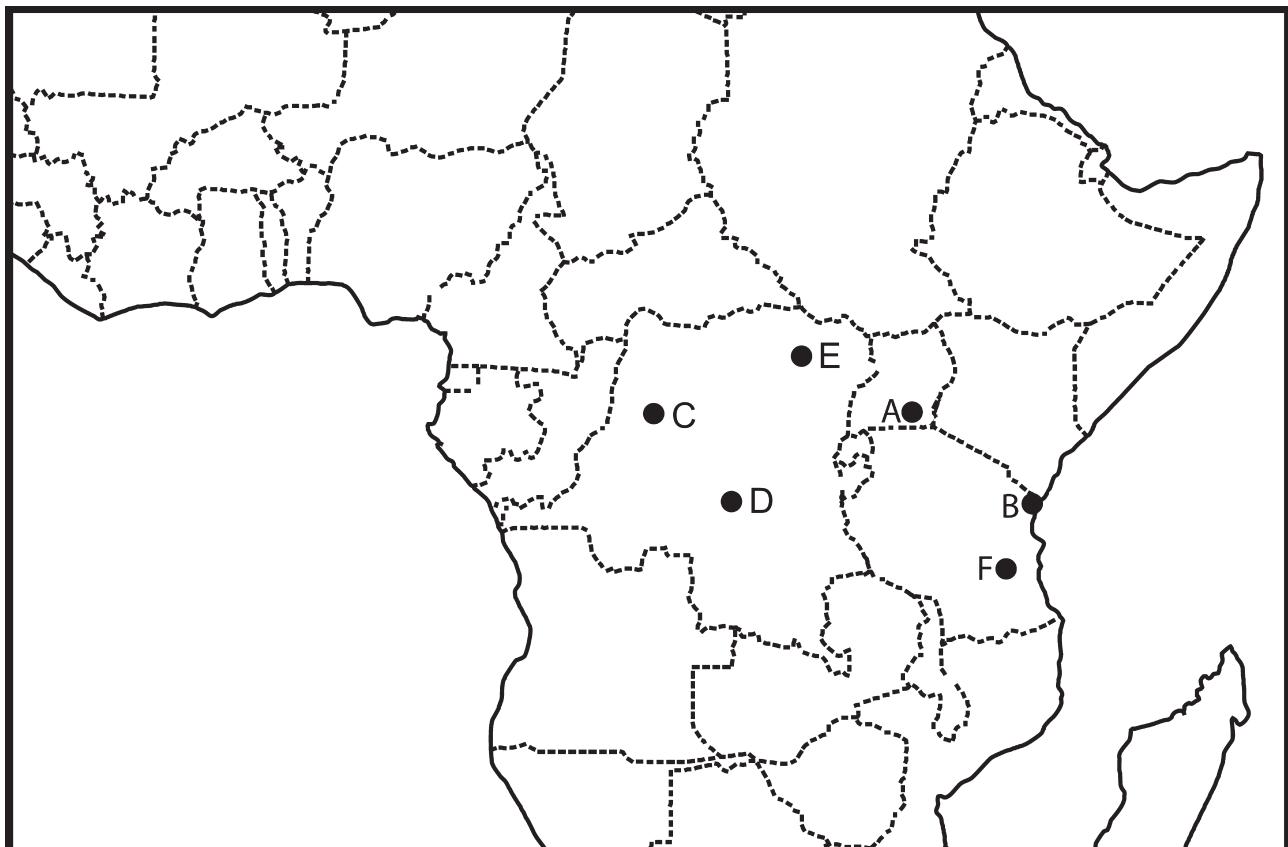
FIGURES 8A–F. Aedeagus in lateral view. A, *Entyphophana apicata* Moser, 1913, holotype; B, *Entyphophana biapicata* Moser, 1913, lectotype; C, *Entyphophana hulstaerti* Burgeon, 1946, lectotype; D, *Entyphophana lujai* Moser, 1917, lectotype; E, *Entyphophana maynei* Burgeon, 1946, lectotype; F, *Entyphophana njiapanda* new species, holotype. Scale bar: 1.0 mm.

Key to species of *Entyphophana* Moser, 1913

1. Occipital carina medially extended into horn (Figs. 1B, 6B) 2
- Occipital carina medially elevated into straight edge or into double horn (Figs. 2B, 3B, 4B, 5B) 3
2. Head including clypeus fissured, densely coarsely punctate; each puncture with an erect macroseta shorter than puncture diameter. Southeastern Tanzania *E. njiapanda* Sehnal
- Head including clypeus simply punctate, with setal length markedly exceeding puncture diameters. Uganda *E. apicata* Moser
3. Occipital carina medially elevated into straight edge. Democratic Republic of the Congo *E. hulstaerti* Burgeon
- Occipital carina medially elevated into double horn 4
4. Head including clypeus fissured. Frontoclypeal surface between carina and suture with semierect setae at least twice as long as puncture diameters. Democratic Republic of the Congo *E. lujai* Moser
- Head including clypeus without fissured. Frontoclypeal surface between carina and suture with erect macrosetae shorter than puncture diameters 5
5. Head smooth, matte. Pronotum with a round, anteromedial, shallow depression gradually rising toward edge of crest. Democratic Republic of the Congo *E. maynei* Burgeon
- Head smooth, glossy. Pronotum with anteromedial, semioval depression widest and flat in anterior third and then gradually reclined toward crest. Northeastern Tanzania *E. biapicata* Moser



FIGURES 9A–F. Inner mesotarsal claw. A, *Entyphophana apicata* Moser, 1913, holotype; B, *Entyphophana biapicata* Moser, 1913, lectotype; C, *Entyphophana hulstaerti* Burgeon, 1946, lectotype; D, *Entyphophana lujai* Moser, 1917, lectotype; E, *Entyphophana maynei* Burgeon, 1946, lectotype; F, *Entyphophana njiapanda* new species, holotype. Scale bar: 1.0 mm.



FIGURES 10A–F. Map with currently known geographical distribution. A, *Entyphophana apicata* Moser, 1913; B, *Entyphophana biapicata* Moser, 1913; C, *Entyphophana hulstaerti* Burgeon, 1946; D, *Entyphophana lujai* Moser, 1917; E, *Entyphophana maynei* Burgeon, 1946; F, *Entyphophana njiapanda* new species.

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